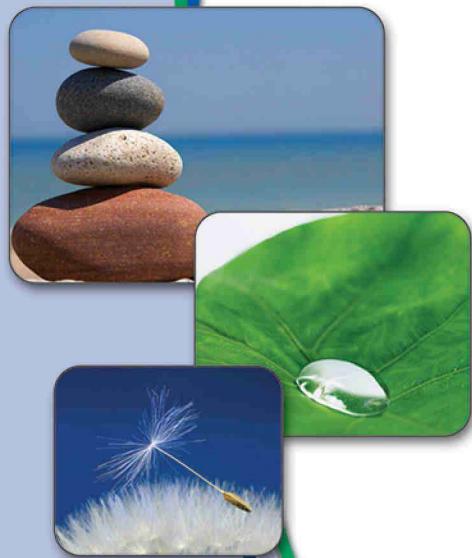


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# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING



## ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Savannah  
5102 LaRoche Avenue  
Savannah, GA 31404  
Tel: (912)354-7858

TestAmerica Job ID: 680-70010-1

Client Project/Site: PASUS - Dimock  
Revision: 2

For:

Cabot Oil & Gas  
Five Penn Center West, Suite 401  
Pittsburgh, Pennsylvania 15276

Attn: Phillip Levasseur

Authorized for release by:  
07/19/2011 02:49:28 PM

Bernard Kirkland  
Project Manager I  
[bernard.kirkland@testamericainc.com](mailto:bernard.kirkland@testamericainc.com)

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Results relate only to the items tested and the sample(s) as received by the laboratory. The test results in this report meet all 2003 NELAC requirements for accredited parameters, exceptions are noted in this report. Pursuant to NELAC, this report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

# Table of Contents

Cover Page . . . . .	1
Table of Contents . . . . .	2
Case Narrative . . . . .	3
Sample Summary . . . . .	6
Method Summary . . . . .	7
Definitions . . . . .	8
Client Sample Results . . . . .	9
QC Sample Results . . . . .	14
QC Association . . . . .	27
Chain of Custody . . . . .	31
Receipt Checklists . . . . .	34

# Case Narrative

Client: Cabot Oil & Gas  
Project/Site: PASUS - Dimock

TestAmerica Job ID: 680-70010-1

**Job ID: 680-70010-1**

**Laboratory: TestAmerica Savannah**

Narrative

## CASE NARRATIVE

**Client: Cabot Oil & Gas**

**Project: PASUS - Dimock**

**Report Number: 680-70010-1**

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

### RECEIPT

The samples were received in Savannah on 07/01/2011; the samples arrived in good condition, properly preserved and on ice. The temperature of the coolers at receipt was 2.0 C. Samples for several methods were received out of hold or with insufficient hold time remaining to perform analysis prior to expiration of the holding time. The data has been flagged accordingly.

### ANIONS

Samples Before Treatment @ Hydrant -150 gallons (680-70010-1) and Before Treatment @ Well Head - 600 gallons (680-70010-2) were analyzed for anions in accordance with EPA Method 300.0. The samples were analyzed on 07/08/2011.

All quality control parameters were within the acceptance limits.

### ANIONS

Samples Before Treatment @ Hydrant -150 gallons (680-70010-1) and Before Treatment @ Well Head - 600 gallons (680-70010-2) were analyzed for anions in accordance with EPA Method 300.0. The samples were analyzed on 07/02/2011.

Due to the high concentration of nitrate, the matrix spike / matrix spike duplicate (MS/MSD) for batch 208245 could not be evaluated for accuracy. The associated laboratory control sample (LCS) met acceptance criteria.

Refer to the QC report for details.

No other difficulties were encountered during the anions analyses.

All other quality control parameters were within the acceptance limits.

### TOTAL METALS (ICP)

Samples Before Treatment @ Hydrant -150 gallons (680-70010-1), Before Treatment @ Well Head - 600 gallons (680-70010-2), Before Treatment @ Hydrant - 450 gallons (680-70010-3) and Before Treatment @ Hydrant - 300 gallons (680-70010-4) were analyzed for total metals (ICP) in accordance with EPA Method 200.7. The samples were prepared on 07/08/2011 and analyzed on 07/09/2011.

Iron failed the recovery criteria low for the MS of sample Before Treatment @ Hydrant - 450 gallonsMS (680-70010-3) in batch 680-208476.

Iron failed the recovery criteria low for the MSD of sample Before Treatment @ Hydrant - 450 gallonsMSD (680-70010-3) in batch 680-208476.

TestAmerica Savannah

## Case Narrative

Client: Cabot Oil & Gas  
Project/Site: PASUS - Dimock

TestAmerica Job ID: 680-70010-1

### Job ID: 680-70010-1 (Continued)

#### Laboratory: TestAmerica Savannah (Continued)

Refer to the QC report for details.

All other quality control parameters were within the acceptance limits.

#### TOTAL METALS (ICPMS)

Samples Before Treatment @ Hydrant -150 gallons (680-70010-1), Before Treatment @ Well Head - 600 gallons (680-70010-2), Before Treatment @ Hydrant - 450 gallons (680-70010-3) and Before Treatment @ Hydrant - 300 gallons (680-70010-4) were analyzed for total metals (ICPMS) in accordance with EPA Method 200.8. The samples were prepared on 07/08/2011 and analyzed on 07/09/2011.

Barium and Strontium failed the recovery criteria high for the MS of sample Before Treatment @ Hydrant - 450 gallonsMS (680-70010-3) in batch 680-208515.

Strontium failed the recovery criteria high for the MSD of sample Before Treatment @ Hydrant - 450 gallonsMSD (680-70010-3) in batch 680-208515. The presence of the '4' qualifier in the report indicates analytes where the concentration in the unspiked sample exceeded four times the spiking amount.

Refer to the QC report for details.

All other quality control parameters were within the acceptance limits.

#### HEM AND SGT-HEM

Samples Before Treatment @ Hydrant -150 gallons (680-70010-1) and Before Treatment @ Well Head - 600 gallons (680-70010-2) were analyzed for HEM and SGT-HEM in accordance with EPA Method 1664A. The samples were analyzed on 07/07/2011.

All quality control parameters were within the acceptance limits.

#### ALKALINITY

Samples Before Treatment @ Hydrant -150 gallons (680-70010-1) and Before Treatment @ Well Head - 600 gallons (680-70010-2) were analyzed for alkalinity in accordance with SM 2320B. The samples were analyzed on 07/03/2011.

All quality control parameters were within the acceptance limits.

#### TOTAL DISSOLVED SOLIDS

Samples Before Treatment @ Hydrant -150 gallons (680-70010-1) and Before Treatment @ Well Head - 600 gallons (680-70010-2) were analyzed for total dissolved solids in accordance with SM 2540C. The samples were analyzed on 07/03/2011.

All quality control parameters were within the acceptance limits.

#### TOTAL SUSPENDED SOLIDS

Samples Before Treatment @ Hydrant -150 gallons (680-70010-1), Before Treatment @ Well Head - 600 gallons (680-70010-2), Before Treatment @ Hydrant - 450 gallons (680-70010-3) and Before Treatment @ Hydrant - 300 gallons (680-70010-4) were analyzed for total suspended solids in accordance with SM 2540D. The samples were analyzed on 07/03/2011.

All quality control parameters were within the acceptance limits.

#### BROMIDE

Samples Before Treatment @ Hydrant -150 gallons (680-70010-1) and Before Treatment @ Well Head - 600 gallons (680-70010-2) were analyzed for bromide in accordance with EPA Method 300.1B. The samples were analyzed on 07/07/2011.

All quality control parameters were within the acceptance limits.

#### METHYLENE BLUE ACTIVE SUBSTANCES

Samples Before Treatment @ Hydrant -150 gallons (680-70010-1) and Before Treatment @ Well Head - 600 gallons (680-70010-2) were analyzed for Methylene Blue Active Substances in accordance with SM 5540C. The samples were analyzed on 07/07/2011.

## Case Narrative

Client: Cabot Oil & Gas  
Project/Site: PASUS - Dimock

TestAmerica Job ID: 680-70010-1

### Job ID: 680-70010-1 (Continued)

#### Laboratory: TestAmerica Savannah (Continued)

All quality control parameters were within the acceptance limits.

#### TURBIDITY

Samples Before Treatment @ Hydrant -150 gallons (680-70010-1) and Before Treatment @ Well Head - 600 gallons (680-70010-2) were analyzed for turbidity in accordance with SM 2130B. The samples were analyzed on 07/01/2011.

Samples Before Treatment @ Hydrant -150 gallons (680-70010-1)[10X] and Before Treatment @ Well Head - 600 gallons (680-70010-2) [10X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

All quality control parameters were within the acceptance limits.

#### TOTAL HARDNESS (AS CaCO<sub>3</sub>) BY CALCULATION

Samples Before Treatment @ Hydrant -150 gallons (680-70010-1) and Before Treatment @ Well Head - 600 gallons (680-70010-2) were analyzed for total hardness (as CaCO<sub>3</sub>) by calculation in accordance with SM 2340B. The samples were analyzed on 07/09/2011.

All quality control parameters were within the acceptance limits.

#### SULFIDE

Samples Before Treatment @ Hydrant -150 gallons (680-70010-1) and Before Treatment @ Well Head - 600 gallons (680-70010-2) were analyzed for sulfide in accordance with SM 4500 S2 F. The samples were analyzed on 07/05/2011.

All quality control parameters were within the acceptance limits.

#### Subcontract Work

Methods Ethylene Glycol, Methane, Ethane, Propane, Volatile Organic Compounds: These methods were subcontracted to TestAmerica Nashville. The subcontract certifications are different from those listed on the TestAmerica cover page of this final report.

TestAmerica Savannah

Page 5 of 34

07/19/2011

## Sample Summary

Client: Cabot Oil & Gas  
Project/Site: PASUS - Dimock

TestAmerica Job ID: 680-70010-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
680-70010-1	Before Treatment @ Hydrant -150 gallons	Drinking Water	06/24/11 13:35	07/01/11 09:40
680-70010-2	Before Treatment @ Well Head - 600 gallons	Drinking Water	06/24/11 15:10	07/01/11 09:40
680-70010-3	Before Treatment @ Hydrant - 450 gallons	Drinking Water	06/24/11 14:35	07/01/11 09:40
680-70010-4	Before Treatment @ Hydrant - 300 gallons	Drinking Water	06/24/11 14:15	07/01/11 09:40

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2  
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4  
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10  
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TestAmerica Savannah

Page 6 of 34

07/19/2011

# Method Summary

Client: Cabot Oil & Gas  
Project/Site: PASUS - Dimock

TestAmerica Job ID: 680-70010-1

Method	Method Description	Protocol	Laboratory
EPA 524.2	Purgeable Organic Compounds by EPA Method 524.2	TAL NSH	
RSK 175	Methane, Ethane, and Ethene by GC	TAL NSH	
SW846 8015B	Glycols by EPA Method 8015 (modified)	TAL NSH	
300.1B	Disinfection By-Products, (IC)	EPA	TAL SAV
200.7 Rev 4.4	Metals (ICP)	EPA	TAL SAV
200.8	Metals (ICP/MS)	EPA	TAL SAV
SM 2340B	Total Hardness (as CaCO <sub>3</sub> ) by calculation	SM	TAL SAV
1664A	HEM and SGT-HEM	1664A	TAL SAV
2540 C	Total Dissolved Solids - SM 20th Ed.	SM20	TAL SAV
300.0	Anions, Ion Chromatography	MCAWW	TAL SAV
SM 2130B	Turbidity	SM	TAL SAV
SM 2320B	Alkalinity	SM	TAL SAV
SM 2540D	Solids, Total Suspended (TSS)	SM	TAL SAV
SM 4500 S2 F	Sulfide, Total	SM	TAL SAV
SM 5540C	Methylene Blue Active Substances (MBAS)	SM	TAL SAV

## Protocol References:

1664A = EPA-821-98-002

EPA = US Environmental Protection Agency

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

SM = "Standard Methods For The Examination Of Water And Wastewater",

SM20 = "Standard Methods For The Examination Of Water And Wastewater", 20th Edition."

## Laboratory References:

TAL NSH = TestAmerica Nashville, 2960 Foster Creighton Road, Nashville, TN 37204, TEL 800-765-0980

TAL SAV = TestAmerica Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

TestAmerica Savannah

Page 7 of 34

07/19/2011

# Definitions/Glossary

Client: Cabot Oil & Gas  
Project/Site: PASUS - Dimock

TestAmerica Job ID: 680-70010-1

## Qualifiers

### GCMS Volatiles

Qualifier	Qualifier Description
L1	Laboratory Control Sample and/or Laboratory Control Sample Duplicate recovery was above acceptance limits.

### Metals

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is 4 times greater than the matrix spike concentration; therefore, control limits are not applicable.

### General Chemistry

Qualifier	Qualifier Description
H	Sample was prepped or analyzed beyond the specified holding time

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
⊗	Listed under the "D" column to designate that the result is reported on a dry weight basis.
EPA	United States Environmental Protection Agency
ND	Not Detected above the reporting level.
MDL	Method Detection Limit
RL	Reporting Limit
RE, RE1 (etc.)	Indicates a Re-extraction or Reanalysis of the sample.
%R	Percent Recovery
RPD	Relative Percent Difference, a measure of the relative difference between two points.

TestAmerica Savannah

Page 8 of 34

07/19/2011

# Client Sample Results

Client: Cabot Oil & Gas  
Project/Site: PASUS - Dimock

TestAmerica Job ID: 680-70010-1

**Client Sample ID: Before Treatment @ Hydrant -150 gallons**

**Lab Sample ID: 680-70010-1**

Date Collected: 06/24/11 13:35  
Date Received: 07/01/11 09:40

Matrix: Drinking Water

## Method: EPA 524.2 - Purgeable Organic Compounds by EPA Method 524.2

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.500		0.500		ug/L		07/07/11 05:28	07/07/11 09:39	1.00
sec-Butylbenzene	<0.500		0.500		ug/L		07/07/11 05:28	07/07/11 09:39	1.00
n-Butylbenzene	<0.500		0.500		ug/L		07/07/11 05:28	07/07/11 09:39	1.00
Ethylbenzene	<0.500		0.500		ug/L		07/07/11 05:28	07/07/11 09:39	1.00
Isopropylbenzene	<0.500		0.500		ug/L		07/07/11 05:28	07/07/11 09:39	1.00
p-Isopropyltoluene	<0.500		0.500		ug/L		07/07/11 05:28	07/07/11 09:39	1.00
Naphthalene	<5.00		5.00		ug/L		07/07/11 05:28	07/07/11 09:39	1.00
n-Propylbenzene	<0.500		0.500		ug/L		07/07/11 05:28	07/07/11 09:39	1.00
Toluene	<0.500		0.500		ug/L		07/07/11 05:28	07/07/11 09:39	1.00
1,2,4-Trichlorobenzene	<0.500		0.500		ug/L		07/07/11 05:28	07/07/11 09:39	1.00
1,3,5-Trimethylbenzene	<0.500		0.500		ug/L		07/07/11 05:28	07/07/11 09:39	1.00
1,2,4-Trimethylbenzene	<0.500		0.500		ug/L		07/07/11 05:28	07/07/11 09:39	1.00
Xylenes, total	<1.00		1.00		ug/L		07/07/11 05:28	07/07/11 09:39	1.00
<b>Surrogate</b>		<b>% Recovery</b>	<b>Qualifier</b>	<b>Limits</b>			<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
1,2-Dichloroethane-d4		101		70 - 130			07/07/11 05:28	07/07/11 09:39	1.00
Dibromofluoromethane		104		70 - 130			07/07/11 05:28	07/07/11 09:39	1.00
Toluene-d8		108		70 - 130			07/07/11 05:28	07/07/11 09:39	1.00
4-Bromofluorobenzene		93		70 - 130			07/07/11 05:28	07/07/11 09:39	1.00

## Method: RSK 175 - Methane, Ethane, and Ethene by GC - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethane	67.5		26.0		ug/L		07/05/11 11:51	07/05/11 16:35	1.00
Propane	<34.0		34.0		ug/L		07/05/11 11:51	07/05/11 16:35	1.00
<b>Surrogate</b>		<b>% Recovery</b>	<b>Qualifier</b>	<b>Limits</b>			<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
Acetylene		89		70 - 122			07/05/11 11:51	07/05/11 16:35	1.00

## Method: RSK 175 - Methane, Ethane, and Ethene by GC - Dissolved - RE1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	1250		130		ug/L		07/05/11 11:51	07/05/11 16:38	5.00

## Method: SW846 8015B - Glycols by EPA Method 8015 (modified)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylene Glycol	<10.0		10.0		mg/L		07/06/11 09:45	07/06/11 12:36	1.00
<b>Surrogate</b>		<b>% Recovery</b>	<b>Qualifier</b>	<b>Limits</b>			<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
2-Butoxyethanol		90		65 - 128			07/06/11 09:45	07/06/11 12:36	1.00

## Method: 300.1B - Disinfection By-Products, (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	<20		20		ug/L		07/07/11 05:09		1
<b>Surrogate</b>		<b>% Recovery</b>	<b>Qualifier</b>	<b>Limits</b>			<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
Dichloroacetic acid		98		90 - 115				07/07/11 05:09	1

## Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	34		0.50		mg/L		07/08/11 11:10	07/09/11 13:16	1
Iron	1.8		0.050		mg/L		07/08/11 11:10	07/09/11 13:16	1
Magnesium	7.1		0.50		mg/L		07/08/11 11:10	07/09/11 13:16	1
Potassium	2.0		1.0		mg/L		07/08/11 11:10	07/09/11 13:16	1

TestAmerica Savannah

# Client Sample Results

Client: Cabot Oil & Gas  
Project/Site: PASUS - Dimock

TestAmerica Job ID: 680-70010-1

## Client Sample ID: Before Treatment @ Hydrant -150 gallons

Lab Sample ID: 680-70010-1

Date Collected: 06/24/11 13:35  
Date Received: 07/01/11 09:40

Matrix: Drinking Water

### Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sodium	13		1.0		mg/L		07/08/11 11:10	07/09/11 13:16	1

### Method: 200.8 - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	0.82		0.010		mg/L		07/08/11 11:03	07/09/11 16:31	1
Arsenic	0.0024		0.0010		mg/L		07/08/11 11:03	07/09/11 16:31	1
Barium	0.30		0.0020		mg/L		07/08/11 11:03	07/09/11 16:31	1
Cadmium	<0.00010		0.00010		mg/L		07/08/11 11:03	07/09/11 16:31	1
Chromium	<0.0020		0.0020		mg/L		07/08/11 11:03	07/09/11 16:31	1
Lead	0.0028		0.00030		mg/L		07/08/11 11:03	07/09/11 16:31	1
Manganese	0.13		0.0025		mg/L		07/08/11 11:03	07/09/11 16:31	1
Mercury	<0.00020		0.00020		mg/L		07/08/11 11:03	07/09/11 16:31	1
Selenium	<0.0020		0.0020		mg/L		07/08/11 11:03	07/09/11 16:31	1
Silver	<0.0010		0.0010		mg/L		07/08/11 11:03	07/09/11 16:31	1
Strontium	0.74		0.00020		mg/L		07/08/11 11:03	07/09/11 16:31	1

### Method: SM 2340B - Total Hardness (as CaCO<sub>3</sub>) by calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hardness as calcium carbonate	110		3.3		mg/L			07/09/11 13:16	1

### General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Oil & Grease	<2.5		2.5		mg/L			07/07/11 13:30	1
Total Dissolved Solids	520	H	10		mg/L			07/03/11 08:48	1
Chloride	8.3		1.0		mg/L			07/08/11 12:56	1
Nitrate as N	0.35	H	0.050		mg/L			07/02/11 03:41	1
Sulfate	11		1.0		mg/L			07/08/11 12:56	1
Turbidity	180	H	1.0		NTU			07/01/11 16:00	10
Alkalinity	420		5.0		mg/L			07/03/11 09:46	1
Total Suspended Solids	170	H	8.3		mg/L			07/03/11 09:24	1
Sulfide	<1.2	H	1.2		mg/L			07/05/11 16:50	1
Methylene Blue Active Substances	<0.20	H	0.20		mg/l LAS MW 340			07/07/11 13:21	1

## Client Sample ID: Before Treatment @ Well Head - 600 gallons

Lab Sample ID: 680-70010-2

Date Collected: 06/24/11 15:10  
Date Received: 07/01/11 09:40

Matrix: Drinking Water

### Method: EPA 524.2 - Purgeable Organic Compounds by EPA Method 524.2

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.500		0.500		ug/L		07/07/11 05:28	07/07/11 10:35	1.00
sec-Butylbenzene	<0.500		0.500		ug/L		07/07/11 05:28	07/07/11 10:35	1.00
n-Butylbenzene	<0.500		0.500		ug/L		07/07/11 05:28	07/07/11 10:35	1.00
Ethylbenzene	<0.500		0.500		ug/L		07/07/11 05:28	07/07/11 10:35	1.00
Isopropylbenzene	<0.500		0.500		ug/L		07/07/11 05:28	07/07/11 10:35	1.00
p-Isopropyltoluene	<0.500		0.500		ug/L		07/07/11 05:28	07/07/11 10:35	1.00
Naphthalene	<5.00		5.00		ug/L		07/07/11 05:28	07/07/11 10:35	1.00
n-Propylbenzene	<0.500		0.500		ug/L		07/07/11 05:28	07/07/11 10:35	1.00
Toluene	<0.500		0.500		ug/L		07/07/11 05:28	07/07/11 10:35	1.00
1,2,4-Trichlorobenzene	<0.500		0.500		ug/L		07/07/11 05:28	07/07/11 10:35	1.00

TestAmerica Savannah

# Client Sample Results

Client: Cabot Oil & Gas  
Project/Site: PASUS - Dimock

TestAmerica Job ID: 680-70010-1

**Client Sample ID: Before Treatment @ Well Head - 600 gallons**

**Lab Sample ID: 680-70010-2**

Matrix: Drinking Water

Date Collected: 06/24/11 15:10  
Date Received: 07/01/11 09:40

## Method: EPA 524.2 - Purgeable Organic Compounds by EPA Method 524.2 (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,3,5-Trimethylbenzene	<0.500		0.500		ug/L		07/07/11 05:28	07/07/11 10:35	1.00
1,2,4-Trimethylbenzene	<0.500		0.500		ug/L		07/07/11 05:28	07/07/11 10:35	1.00
Xylenes, total	<1.00		1.00		ug/L		07/07/11 05:28	07/07/11 10:35	1.00
<b>Surrogate</b>	<b>% Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
1,2-Dichloroethane-d4	106		70 - 130				07/07/11 05:28	07/07/11 10:35	1.00
Dibromofluoromethane	106		70 - 130				07/07/11 05:28	07/07/11 10:35	1.00
Toluene-d8	105		70 - 130				07/07/11 05:28	07/07/11 10:35	1.00
4-Bromofluorobenzene	94		70 - 130				07/07/11 05:28	07/07/11 10:35	1.00

## Method: RSK 175 - Methane, Ethane, and Ethene by GC - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Methane</b>	<b>502</b>		26.0		ug/L		07/05/11 11:51	07/05/11 16:40	1.00
Ethane	<26.0		26.0		ug/L		07/05/11 11:51	07/05/11 16:40	1.00
Propane	<34.0		34.0		ug/L		07/05/11 11:51	07/05/11 16:40	1.00
<b>Surrogate</b>	<b>% Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
Acetylene	95		70 - 122				07/05/11 11:51	07/05/11 16:40	1.00

## Method: SW846 8015B - Glycols by EPA Method 8015 (modified)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylene Glycol	<10.0		10.0		mg/L		07/06/11 09:45	07/06/11 12:45	1.00
<b>Surrogate</b>	<b>% Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
2-Butoxyethanol	88		65 - 128				07/06/11 09:45	07/06/11 12:45	1.00

## Method: 300.1B - Disinfection By-Products, (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	<20		20		ug/L		07/07/11 05:40	07/07/11 05:40	1
<b>Surrogate</b>	<b>% Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
Dichloroacetic acid	97		90 - 115				07/07/11 05:40	07/07/11 05:40	1

## Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	34		0.50		mg/L		07/08/11 11:10	07/09/11 13:21	1
Iron	3.1		0.050		mg/L		07/08/11 11:10	07/09/11 13:21	1
Magnesium	7.2		0.50		mg/L		07/08/11 11:10	07/09/11 13:21	1
Potassium	2.3		1.0		mg/L		07/08/11 11:10	07/09/11 13:21	1
Sodium	12		1.0		mg/L		07/08/11 11:10	07/09/11 13:21	1

## Method: 200.8 - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	1.7		0.010		mg/L		07/08/11 11:03	07/09/11 16:36	1
Arsenic	0.0044		0.0010		mg/L		07/08/11 11:03	07/09/11 16:36	1
Barium	0.28		0.0020		mg/L		07/08/11 11:03	07/09/11 16:36	1
Cadmium	<0.00010		0.00010		mg/L		07/08/11 11:03	07/09/11 16:36	1
Chromium	0.0096		0.0020		mg/L		07/08/11 11:03	07/09/11 16:36	1
Lead	0.0035		0.00030		mg/L		07/08/11 11:03	07/09/11 16:36	1
Manganese	0.12		0.0025		mg/L		07/08/11 11:03	07/09/11 16:36	1
Mercury	<0.00020		0.00020		mg/L		07/08/11 11:03	07/09/11 16:36	1
Selenium	<0.0020		0.0020		mg/L		07/08/11 11:03	07/09/11 16:36	1

TestAmerica Savannah

# Client Sample Results

Client: Cabot Oil & Gas  
Project/Site: PASUS - Dimock

TestAmerica Job ID: 680-70010-1

**Client Sample ID: Before Treatment @ Well Head - 600 gallons**

**Lab Sample ID: 680-70010-2**

Date Collected: 06/24/11 15:10  
Date Received: 07/01/11 09:40

Matrix: Drinking Water

## Method: 200.8 - Metals (ICP/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	<0.0010		0.0010		mg/L		07/08/11 11:03	07/09/11 16:36	1
Strontium	0.73		0.00020		mg/L		07/08/11 11:03	07/09/11 16:36	1

## Method: SM 2340B - Total Hardness (as CaCO<sub>3</sub>) by calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hardness as calcium carbonate	110		3.3		mg/L			07/09/11 13:21	1

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Oil & Grease	<2.5		2.5		mg/L			07/07/11 13:30	1
Total Dissolved Solids	410 H		10		mg/L			07/03/11 08:48	1
Chloride	8.3		1.0		mg/L			07/08/11 13:11	1
Nitrate as N	0.51 H		0.050		mg/L			07/02/11 03:56	1
Sulfate	11		1.0		mg/L			07/08/11 13:11	1
Turbidity	130 H		1.0		NTU			07/01/11 16:00	10
Alkalinity	370		5.0		mg/L			07/03/11 09:56	1
Total Suspended Solids	90 H		5.0		mg/L			07/03/11 09:24	1
Sulfide	<1.1 H		1.1		mg/L			07/05/11 16:50	1
Methylene Blue Active Substances	<0.20 H		0.20		mg/L LAS MW 340			07/07/11 13:21	1

**Client Sample ID: Before Treatment @ Hydrant - 450 gallons**

**Lab Sample ID: 680-70010-3**

Date Collected: 06/24/11 14:35  
Date Received: 07/01/11 09:40

Matrix: Drinking Water

## Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	33		0.50		mg/L		07/08/11 11:10	07/09/11 13:26	1
Iron	6.8		0.050		mg/L		07/08/11 11:10	07/09/11 13:26	1
Magnesium	7.8		0.50		mg/L		07/08/11 11:10	07/09/11 13:26	1
Potassium	3.2		1.0		mg/L		07/08/11 11:10	07/09/11 13:26	1
Sodium	12		1.0		mg/L		07/08/11 11:10	07/09/11 13:26	1

## Method: 200.8 - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	3.1		0.010		mg/L		07/08/11 11:03	07/09/11 16:41	1
Arsenic	0.0077		0.0010		mg/L		07/08/11 11:03	07/09/11 16:41	1
Barium	0.29		0.0020		mg/L		07/08/11 11:03	07/09/11 16:41	1
Cadmium	<0.00010		0.00010		mg/L		07/08/11 11:03	07/09/11 16:41	1
Chromium	0.0035		0.0020		mg/L		07/08/11 11:03	07/09/11 16:41	1
Lead	0.0064		0.00030		mg/L		07/08/11 11:03	07/09/11 16:41	1
Manganese	0.19		0.0025		mg/L		07/08/11 11:03	07/09/11 16:41	1
Mercury	<0.00020		0.00020		mg/L		07/08/11 11:03	07/09/11 16:41	1
Selenium	<0.0020		0.0020		mg/L		07/08/11 11:03	07/09/11 16:41	1
Silver	<0.0010		0.0010		mg/L		07/08/11 11:03	07/09/11 16:41	1
Strontium	0.72		0.00020		mg/L		07/08/11 11:03	07/09/11 16:41	1

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	130 H		7.1		mg/L			07/03/11 09:24	1

TestAmerica Savannah

# Client Sample Results

Client: Cabot Oil & Gas  
Project/Site: PASUS - Dimock

TestAmerica Job ID: 680-70010-1

**Client Sample ID: Before Treatment @ Hydrant - 300 gallons**

**Lab Sample ID: 680-70010-4**

Date Collected: 06/24/11 14:15  
Date Received: 07/01/11 09:40

Matrix: Drinking Water

## Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	35		0.50		mg/L		07/08/11 11:10	07/09/11 14:01	1
Iron	0.80		0.050		mg/L		07/08/11 11:10	07/09/11 14:01	1
Magnesium	7.0		0.50		mg/L		07/08/11 11:10	07/09/11 14:01	1
Potassium	1.8		1.0		mg/L		07/08/11 11:10	07/09/11 14:01	1
Sodium	12		1.0		mg/L		07/08/11 11:10	07/09/11 14:01	1

## Method: 200.8 - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	0.34		0.010		mg/L		07/08/11 11:04	07/09/11 17:15	1
Arsenic	0.0013		0.0010		mg/L		07/08/11 11:04	07/09/11 17:15	1
Barium	0.26		0.0020		mg/L		07/08/11 11:04	07/09/11 17:15	1
Cadmium	<0.00010		0.00010		mg/L		07/08/11 11:04	07/09/11 17:15	1
Chromium	<0.0020		0.0020		mg/L		07/08/11 11:04	07/09/11 17:15	1
Lead	0.0035		0.00030		mg/L		07/08/11 11:04	07/09/11 17:15	1
Manganese	0.072		0.0025		mg/L		07/08/11 11:04	07/09/11 17:15	1
Mercury	<0.00020		0.00020		mg/L		07/08/11 11:04	07/09/11 17:15	1
Selenium	<0.0020		0.0020		mg/L		07/08/11 11:04	07/09/11 17:15	1
Silver	<0.0010		0.0010		mg/L		07/08/11 11:04	07/09/11 17:15	1
Strontium	0.75		0.00020		mg/L		07/08/11 11:04	07/09/11 17:15	1

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	89	H	5.0		mg/L			07/03/11 09:24	1

TestAmerica Savannah

# QC Sample Results

Client: Cabot Oil & Gas  
Project/Site: PASUS - Dimock

TestAmerica Job ID: 680-70010-1

## Method: EPA 524.2 - Purgeable Organic Compounds by EPA Method 524.2

Lab Sample ID: 11G0373-BLK1

Matrix: Water

Analysis Batch: U012316

Client Sample ID: Method Blank

Prep Type: Total

Prep Batch: 11G0373\_P

Analyte	Blank	Blank	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Benzene	<0.500		0.500		ug/L		07/07/11 05:28	07/07/11 08:43	1.00
Bromobenzene	<0.500		0.500		ug/L		07/07/11 05:28	07/07/11 08:43	1.00
Bromoform	<0.500		0.500		ug/L		07/07/11 05:28	07/07/11 08:43	1.00
Bromomethane	<0.500		0.500		ug/L		07/07/11 05:28	07/07/11 08:43	1.00
sec-Butylbenzene	<0.500		0.500		ug/L		07/07/11 05:28	07/07/11 08:43	1.00
n-Butylbenzene	<0.500		0.500		ug/L		07/07/11 05:28	07/07/11 08:43	1.00
tert-Butylbenzene	<0.500		0.500		ug/L		07/07/11 05:28	07/07/11 08:43	1.00
Carbon disulfide	<0.500		0.500		ug/L		07/07/11 05:28	07/07/11 08:43	1.00
Carbon Tetrachloride	<0.500		0.500		ug/L		07/07/11 05:28	07/07/11 08:43	1.00
Chlorobenzene	<0.500		0.500		ug/L		07/07/11 05:28	07/07/11 08:43	1.00
Chlorodibromomethane	<0.500		0.500		ug/L		07/07/11 05:28	07/07/11 08:43	1.00
Chloroethane	<0.500		0.500		ug/L		07/07/11 05:28	07/07/11 08:43	1.00
Chloroform	<0.500		0.500		ug/L		07/07/11 05:28	07/07/11 08:43	1.00
Chloromethane	<0.500		0.500		ug/L		07/07/11 05:28	07/07/11 08:43	1.00
4-Chlorotoluene	<0.500		0.500		ug/L		07/07/11 05:28	07/07/11 08:43	1.00
2-Chlorotoluene	<0.500		0.500		ug/L		07/07/11 05:28	07/07/11 08:43	1.00
1,2-Dibromo-3-chloropropane	<2.00		2.00		ug/L		07/07/11 05:28	07/07/11 08:43	1.00
1,2-Dibromoethane (EDB)	<0.500		0.500		ug/L		07/07/11 05:28	07/07/11 08:43	1.00
Dibromomethane	<0.500		0.500		ug/L		07/07/11 05:28	07/07/11 08:43	1.00
1,4-Dichlorobenzene	<0.500		0.500		ug/L		07/07/11 05:28	07/07/11 08:43	1.00
1,2-Dichlorobenzene	<0.500		0.500		ug/L		07/07/11 05:28	07/07/11 08:43	1.00
1,3-Dichlorobenzene	<0.500		0.500		ug/L		07/07/11 05:28	07/07/11 08:43	1.00
Dichlorodifluoromethane	<0.500		0.500		ug/L		07/07/11 05:28	07/07/11 08:43	1.00
1,1-Dichloroethane	<0.500		0.500		ug/L		07/07/11 05:28	07/07/11 08:43	1.00
1,2-Dichloroethane	<0.500		0.500		ug/L		07/07/11 05:28	07/07/11 08:43	1.00
1,1-Dichloroethene	<0.500		0.500		ug/L		07/07/11 05:28	07/07/11 08:43	1.00
cis-1,2-Dichloroethene	<0.500		0.500		ug/L		07/07/11 05:28	07/07/11 08:43	1.00
trans-1,2-Dichloroethene	<0.500		0.500		ug/L		07/07/11 05:28	07/07/11 08:43	1.00
1,3-Dichloropropane	<0.500		0.500		ug/L		07/07/11 05:28	07/07/11 08:43	1.00
2,2-Dichloropropane	<0.500		0.500		ug/L		07/07/11 05:28	07/07/11 08:43	1.00
1,2-Dichloropropane	<0.500		0.500		ug/L		07/07/11 05:28	07/07/11 08:43	1.00
cis-1,3-Dichloropropene	<0.500		0.500		ug/L		07/07/11 05:28	07/07/11 08:43	1.00
trans-1,3-Dichloropropene	<0.500		0.500		ug/L		07/07/11 05:28	07/07/11 08:43	1.00
1,1-Dichloropropene	<0.500		0.500		ug/L		07/07/11 05:28	07/07/11 08:43	1.00
Ethylbenzene	<0.500		0.500		ug/L		07/07/11 05:28	07/07/11 08:43	1.00
Hexachlorobutadiene	<0.500		0.500		ug/L		07/07/11 05:28	07/07/11 08:43	1.00
Isopropylbenzene	<0.500		0.500		ug/L		07/07/11 05:28	07/07/11 08:43	1.00
p-Isopropyltoluene	<0.500		0.500		ug/L		07/07/11 05:28	07/07/11 08:43	1.00
Methylene Chloride	<5.00		5.00		ug/L		07/07/11 05:28	07/07/11 08:43	1.00
Naphthalene	<5.00		5.00		ug/L		07/07/11 05:28	07/07/11 08:43	1.00
n-Propylbenzene	<0.500		0.500		ug/L		07/07/11 05:28	07/07/11 08:43	1.00
Styrene	<0.500		0.500		ug/L		07/07/11 05:28	07/07/11 08:43	1.00
1,1,1,2-Tetrachloroethane	<0.500		0.500		ug/L		07/07/11 05:28	07/07/11 08:43	1.00
1,1,2,2-Tetrachloroethane	<0.500		0.500		ug/L		07/07/11 05:28	07/07/11 08:43	1.00
Tetrachloroethene	<0.500		0.500		ug/L		07/07/11 05:28	07/07/11 08:43	1.00
Toluene	<0.500		0.500		ug/L		07/07/11 05:28	07/07/11 08:43	1.00
1,2,3-Trichlorobenzene	<0.500		0.500		ug/L		07/07/11 05:28	07/07/11 08:43	1.00

TestAmerica Savannah

# QC Sample Results

Client: Cabot Oil & Gas  
Project/Site: PASUS - Dimock

TestAmerica Job ID: 680-70010-1

## Method: EPA 524.2 - Purgeable Organic Compounds by EPA Method 524.2 (Continued)

**Lab Sample ID:** 11G0373-BLK1

**Matrix:** Water

**Analysis Batch:** U012316

**Client Sample ID:** Method Blank

**Prep Type:** Total

**Prep Batch:** 11G0373\_P

Analyte	Blank	Blank	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
1,2,4-Trichlorobenzene	<0.500		0.500		ug/L		07/07/11 05:28	07/07/11 08:43	1.00
1,1,2-Trichloroethane	<0.500		0.500		ug/L		07/07/11 05:28	07/07/11 08:43	1.00
1,1,1-Trichloroethane	<0.500		0.500		ug/L		07/07/11 05:28	07/07/11 08:43	1.00
Trichloroethylene	<0.500		0.500		ug/L		07/07/11 05:28	07/07/11 08:43	1.00
Trichlorofluoromethane	<0.500		0.500		ug/L		07/07/11 05:28	07/07/11 08:43	1.00
1,2,3-Trichloropropane	<0.500		0.500		ug/L		07/07/11 05:28	07/07/11 08:43	1.00
1,3,5-Trimethylbenzene	<0.500		0.500		ug/L		07/07/11 05:28	07/07/11 08:43	1.00
1,2,4-Trimethylbenzene	<0.500		0.500		ug/L		07/07/11 05:28	07/07/11 08:43	1.00
Vinyl chloride	<0.500		0.500		ug/L		07/07/11 05:28	07/07/11 08:43	1.00
Xylenes, total	<1.00		1.00		ug/L		07/07/11 05:28	07/07/11 08:43	1.00
Surrogate	Blank	Blank	% Recovery	Qualifier	Limits	D	Prepared	Analyzed	Dil Fac
	% Recovery	Qualifier							
1,2-Dichloroethane-d4	101		70 - 130				07/07/11 05:28	07/07/11 08:43	1.00
Dibromofluoromethane	106		70 - 130				07/07/11 05:28	07/07/11 08:43	1.00
Toluene-d8	108		70 - 130				07/07/11 05:28	07/07/11 08:43	1.00
4-Bromofluorobenzene	93		70 - 130				07/07/11 05:28	07/07/11 08:43	1.00

**Lab Sample ID:** 11G0373-BS1

**Matrix:** Water

**Analysis Batch:** U012316

**Client Sample ID:** Lab Control Sample

**Prep Type:** Total

**Prep Batch:** 11G0373\_P

Analyte	Spike	LCS		Unit	D	% Rec	% Rec.	
		Added	Result					
Benzene		50.0	49.8	ug/L		100	70 - 130	
Bromobenzene		50.0	47.2	ug/L		94	70 - 130	
Bromochloromethane		50.0	56.3	ug/L		113	70 - 130	
Bromodichloromethane		50.0	51.4	ug/L		103	70 - 130	
Bromoform		50.0	64.8	ug/L		130	70 - 130	
Bromomethane		50.0	44.6	ug/L		89	70 - 130	
sec-Butylbenzene		50.0	48.1	ug/L		96	70 - 130	
n-Butylbenzene		50.0	48.6	ug/L		97	70 - 130	
tert-Butylbenzene		50.0	47.2	ug/L		94	70 - 130	
Carbon disulfide		50.0	48.1	ug/L		96	70 - 130	
Carbon Tetrachloride		50.0	52.7	ug/L		105	70 - 130	
Chlorobenzene		50.0	51.6	ug/L		103	70 - 130	
Chlorodibromomethane		50.0	73.1 L1	ug/L		146	70 - 130	
Chloroethane		50.0	51.7	ug/L		103	70 - 130	
Chloroform		50.0	48.4	ug/L		97	70 - 130	
Chloromethane		50.0	45.4	ug/L		91	70 - 130	
4-Chlorotoluene		50.0	47.5	ug/L		95	70 - 130	
2-Chlorotoluene		50.0	46.2	ug/L		92	70 - 130	
1,2-Dibromo-3-chloropropane		50.0	56.7	ug/L		113	70 - 130	
1,2-Dibromoethane (EDB)		50.0	60.0	ug/L		120	70 - 130	
Dibromomethane		50.0	51.5	ug/L		103	70 - 130	
1,4-Dichlorobenzene		50.0	50.3	ug/L		101	70 - 130	
1,2-Dichlorobenzene		50.0	50.6	ug/L		101	70 - 130	
1,3-Dichlorobenzene		50.0	49.9	ug/L		100	70 - 130	
Dichlorodifluoromethane		50.0	37.5	ug/L		75	70 - 130	
1,1-Dichloroethane		50.0	52.4	ug/L		105	70 - 130	
1,2-Dichloroethane		50.0	47.5	ug/L		95	70 - 130	

TestAmerica Savannah

# QC Sample Results

Client: Cabot Oil & Gas  
Project/Site: PASUS - Dimock

TestAmerica Job ID: 680-70010-1

## Method: EPA 524.2 - Purgeable Organic Compounds by EPA Method 524.2 (Continued)

Lab Sample ID: 11G0373-BS1

Client Sample ID: Lab Control Sample

Matrix: Water

Prep Type: Total

Analysis Batch: U012316

Prep Batch: 11G0373\_P

Analyte	Spike Added	LCS		Unit	D	% Rec	Limits	% Rec.
		Result	Qualifier					
1,1-Dichloroethene	50.0	48.6		ug/L	97	70 - 130		
cis-1,2-Dichloroethene	50.0	49.6		ug/L	99	70 - 130		
trans-1,2-Dichloroethene	50.0	52.8		ug/L	106	70 - 130		
1,3-Dichloropropane	50.0	56.5		ug/L	113	70 - 130		
2,2-Dichloropropane	50.0	40.0		ug/L	80	70 - 130		
1,2-Dichloropropane	50.0	52.4		ug/L	105	70 - 130		
cis-1,3-Dichloropropene	50.0	64.4		ug/L	129	70 - 130		
trans-1,3-Dichloropropene	50.0	61.5		ug/L	123	70 - 130		
1,1-Dichloropropene	50.0	51.9		ug/L	104	70 - 130		
Ethylbenzene	50.0	51.1		ug/L	102	70 - 130		
Hexachlorobutadiene	50.0	46.2		ug/L	92	70 - 130		
Isopropylbenzene	50.0	56.7		ug/L	113	70 - 130		
p-Isopropyltoluene	50.0	47.7		ug/L	95	70 - 130		
Methylene Chloride	50.0	48.5		ug/L	97	70 - 130		
Naphthalene	50.0	54.5		ug/L	109	70 - 130		
n-Propylbenzene	50.0	48.6		ug/L	97	70 - 130		
Styrene	50.0	53.2		ug/L	106	70 - 130		
1,1,1,2-Tetrachloroethane	50.0	58.8		ug/L	118	70 - 130		
1,1,2,2-Tetrachloroethane	50.0	56.2		ug/L	112	70 - 130		
Tetrachloroethene	50.0	54.7		ug/L	109	70 - 130		
Toluene	50.0	49.8		ug/L	100	70 - 130		
1,2,3-Trichlorobenzene	50.0	48.6		ug/L	97	70 - 130		
1,2,4-Trichlorobenzene	50.0	53.0		ug/L	106	70 - 130		
1,1,2-Trichloroethane	50.0	55.4		ug/L	111	70 - 130		
1,1,1-Trichloroethane	50.0	48.2		ug/L	96	70 - 130		
Trichloroethene	50.0	52.3		ug/L	105	70 - 130		
Trichlorofluoromethane	50.0	41.3		ug/L	83	70 - 130		
1,2,3-Trichloropropane	50.0	51.1		ug/L	102	70 - 130		
1,3,5-Trimethylbenzene	50.0	47.4		ug/L	95	70 - 130		
1,2,4-Trimethylbenzene	50.0	46.5		ug/L	93	70 - 130		
Vinyl chloride	50.0	49.4		ug/L	99	70 - 130		
Xylenes, total	150	152		ug/L	101	70 - 130		

LCS LCS

Surrogate	% Recovery	LCS		Limits
		Result	Qualifier	
1,2-Dichloroethane-d4	96	70 - 130		
Dibromofluoromethane	104	70 - 130		
Toluene-d8	104	70 - 130		
4-Bromofluorobenzene	92	70 - 130		

Lab Sample ID: 11G0373-BSD1

Client Sample ID: Lab Control Sample Dup

Matrix: Water

Prep Type: Total

Analysis Batch: U012316

Prep Batch: 11G0373\_P

Analyte	Spike Added	LCS Dup		Unit	D	% Rec	Limits	RPD	Limit
		Result	Qualifier						
Benzene	50.0	50.3		ug/L	101	70 - 130	0.9	20	
Bromobenzene	50.0	46.4		ug/L	93	70 - 130	2	20	
Bromochloromethane	50.0	57.3		ug/L	115	70 - 130	2	20	
Bromodichloromethane	50.0	53.1		ug/L	106	70 - 130	3	20	
Bromoform	50.0	65.3	L1	ug/L	131	70 - 130	0.8	20	

TestAmerica Savannah

# QC Sample Results

Client: Cabot Oil & Gas  
Project/Site: PASUS - Dimock

TestAmerica Job ID: 680-70010-1

## Method: EPA 524.2 - Purgeable Organic Compounds by EPA Method 524.2 (Continued)

**Lab Sample ID: 11G0373-BSD1**

**Matrix: Water**

**Analysis Batch: U012316**

**Client Sample ID: Lab Control Sample Dup**

**Prep Type: Total**

**Prep Batch: 11G0373\_P**

Analyte	Spike Added	LCS Dup		Unit	D	% Rec	% Rec.		RPD	Limit
		Result	Qualifier				Limits	RPD		
Bromomethane	50.0	47.4		ug/L	95	70 - 130	6	20		
sec-Butylbenzene	50.0	47.5		ug/L	95	70 - 130	1	20		
n-Butylbenzene	50.0	46.8		ug/L	94	70 - 130	4	20		
tert-Butylbenzene	50.0	47.8		ug/L	96	70 - 130	1	20		
Carbon disulfide	50.0	48.3		ug/L	97	70 - 130	0.4	20		
Carbon Tetrachloride	50.0	52.0		ug/L	104	70 - 130	1	20		
Chlorobenzene	50.0	51.4		ug/L	103	70 - 130	0.5	20		
Chlorodibromomethane	50.0	73.8	L1	ug/L	148	70 - 130	0.9	20		
Chloroethane	50.0	52.1		ug/L	104	70 - 130	0.7	20		
Chloroform	50.0	49.1		ug/L	98	70 - 130	1	20		
Chloromethane	50.0	47.4		ug/L	95	70 - 130	4	20		
4-Chlorotoluene	50.0	46.8		ug/L	94	70 - 130	1	20		
2-Chlorotoluene	50.0	45.5		ug/L	91	70 - 130	2	20		
1,2-Dibromo-3-chloropropane	50.0	57.8		ug/L	116	70 - 130	2	20		
1,2-Dibromoethane (EDB)	50.0	59.0		ug/L	118	70 - 130	2	20		
Dibromomethane	50.0	54.0		ug/L	108	70 - 130	5	20		
1,4-Dichlorobenzene	50.0	50.2		ug/L	100	70 - 130	0.2	20		
1,2-Dichlorobenzene	50.0	51.0		ug/L	102	70 - 130	0.8	20		
1,3-Dichlorobenzene	50.0	49.8		ug/L	100	70 - 130	0.3	20		
Dichlorodifluoromethane	50.0	36.9		ug/L	74	70 - 130	2	20		
1,1-Dichloroethane	50.0	53.8		ug/L	108	70 - 130	3	20		
1,2-Dichloroethane	50.0	48.8		ug/L	98	70 - 130	3	20		
1,1-Dichloroethene	50.0	49.6		ug/L	99	70 - 130	2	20		
cis-1,2-Dichloroethene	50.0	50.4		ug/L	101	70 - 130	2	20		
trans-1,2-Dichloroethene	50.0	54.0		ug/L	108	70 - 130	2	20		
1,3-Dichloropropane	50.0	56.8		ug/L	114	70 - 130	0.5	20		
2,2-Dichloropropane	50.0	39.6		ug/L	79	70 - 130	1	20		
1,2-Dichloropropane	50.0	54.2		ug/L	108	70 - 130	3	20		
cis-1,3-Dichloropropene	50.0	63.7		ug/L	127	70 - 130	1	20		
trans-1,3-Dichloropropene	50.0	61.6		ug/L	123	70 - 130	0.2	20		
1,1-Dichloropropene	50.0	51.3		ug/L	103	70 - 130	1	20		
Ethylbenzene	50.0	50.8		ug/L	102	70 - 130	0.6	20		
Hexachlorobutadiene	50.0	45.0		ug/L	90	70 - 130	2	20		
Isopropylbenzene	50.0	56.1		ug/L	112	70 - 130	1	20		
p-Isopropyltoluene	50.0	47.4		ug/L	95	70 - 130	0.6	20		
Methylene Chloride	50.0	50.2		ug/L	100	70 - 130	3	20		
Naphthalene	50.0	54.8		ug/L	110	70 - 130	0.7	20		
n-Propylbenzene	50.0	47.6		ug/L	95	70 - 130	2	20		
Styrene	50.0	53.1		ug/L	106	70 - 130	0.09	20		
1,1,1,2-Tetrachloroethane	50.0	60.2		ug/L	120	70 - 130	2	20		
1,1,2,2-Tetrachloroethane	50.0	55.9		ug/L	112	70 - 130	0.5	20		
Tetrachloroethene	50.0	53.0		ug/L	106	70 - 130	3	20		
Toluene	50.0	49.8		ug/L	100	70 - 130	0.08	20		
1,2,3-Trichlorobenzene	50.0	49.4		ug/L	99	70 - 130	1	20		
1,2,4-Trichlorobenzene	50.0	52.6		ug/L	105	70 - 130	0.6	20		
1,1,2-Trichloroethane	50.0	55.5		ug/L	111	70 - 130	0.2	20		
1,1,1-Trichloroethane	50.0	47.7		ug/L	95	70 - 130	1	20		
Trichloroethene	50.0	52.6		ug/L	105	70 - 130	0.7	20		
Trichlorofluoromethane	50.0	41.9		ug/L	84	70 - 130	1	20		
1,2,3-Trichloropropane	50.0	50.7		ug/L	101	70 - 130	0.8	20		

TestAmerica Savannah

# QC Sample Results

Client: Cabot Oil & Gas  
Project/Site: PASUS - Dimock

TestAmerica Job ID: 680-70010-1

## Method: EPA 524.2 - Purgeable Organic Compounds by EPA Method 524.2 (Continued)

**Lab Sample ID:** 11G0373-BSD1

**Matrix:** Water

**Analysis Batch:** U012316

**Client Sample ID:** Lab Control Sample Dup

**Prep Type:** Total

**Prep Batch:** 11G0373\_P

Analyte		Spike	LCS Dup	LCS Dup	Unit	D	% Rec	Limits	RPD	Limit
		Added	Result	Qualifier						
1,3,5-Trimethylbenzene		50.0	46.8		ug/L		94	70 - 130	1	20
1,2,4-Trimethylbenzene		50.0	45.8		ug/L		92	70 - 130	1	20
Vinyl chloride		50.0	50.7		ug/L		101	70 - 130	3	20
Xylenes, total		150	151		ug/L		101	70 - 130	0.4	20

Surrogate	LCS Dup		LCS Dup	Limits	RPD	Limit
	% Recovery	Qualifier				
1,2-Dichloroethane-d4	97		70 - 130			
Dibromofluoromethane	104		70 - 130			
Toluene-d8	104		70 - 130			
4-Bromofluorobenzene	91		70 - 130			

## Method: RSK 175 - Methane, Ethane, and Ethene by GC

**Lab Sample ID:** 11G0549-BLK1

**Matrix:** Water

**Analysis Batch:** U011861

**Client Sample ID:** Method Blank

**Prep Type:** Dissolved

**Prep Batch:** 11G0549\_P

Analyte	Blank	Blank	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Methane	<26.0		26.0		ug/L		07/05/11 11:51	07/05/11 15:34	1.00
Ethene	<26.0		26.0		ug/L		07/05/11 11:51	07/05/11 15:34	1.00
Ethane	<26.0		26.0		ug/L		07/05/11 11:51	07/05/11 15:34	1.00
Propane	<34.0		34.0		ug/L		07/05/11 11:51	07/05/11 15:34	1.00

Surrogate	Blank	Blank	Limits	RPD	Limit
	% Recovery	Qualifier			
Acetylene	94		70 - 122		

**Lab Sample ID:** 11G0549-BS1

**Matrix:** Water

**Analysis Batch:** U011861

**Client Sample ID:** Lab Control Sample

**Prep Type:** Dissolved

**Prep Batch:** 11G0549\_P

Analyte	Spike	LCS		LCS	Unit	D	% Rec	Limits	RPD	Limit
	Added	Result	Qualifier							
Methane	273	262		ug/L			96	80 - 120		
Ethene	479	460		ug/L			96	80 - 120		
Ethane	512	494		ug/L			96	80 - 120		
Propane	754	718		ug/L			95	80 - 120		

Surrogate	LCS		LCS	RPD	Limit
	% Recovery	Qualifier	Limits		
Acetylene	93		70 - 122		

**Lab Sample ID:** 11G0549-BSD1

**Matrix:** Water

**Analysis Batch:** U011861

**Client Sample ID:** Lab Control Sample Dup

**Prep Type:** Dissolved

**Prep Batch:** 11G0549\_P

Analyte	Spike	LCS Dup		LCS Dup	Unit	D	% Rec	Limits	RPD	Limit
	Added	Result	Qualifier							
Methane	273	267		ug/L			98	80 - 120	2	33
Ethene	479	464		ug/L			97	80 - 120	1	
Ethane	512	502		ug/L			98	80 - 120	2	30
Propane	754	732		ug/L			97	80 - 120	2	33

TestAmerica Savannah

# QC Sample Results

Client: Cabot Oil & Gas  
Project/Site: PASUS - Dimock

TestAmerica Job ID: 680-70010-1

## Method: RSK 175 - Methane, Ethane, and Ethene by GC (Continued)

Lab Sample ID: 11G0549-BSD1

Matrix: Water

Analysis Batch: U011861

Client Sample ID: Lab Control Sample Dup

Prep Type: Dissolved

Prep Batch: 11G0549\_P

Surrogate	LCS Dup	LCS Dup	Limits
	% Recovery	Qualifier	
Acetylene	84		70 - 122

## Method: SW846 8015B - Glycols by EPA Method 8015 (modified)

Lab Sample ID: 11G0671-BLK1

Matrix: Water

Analysis Batch: U011950

Client Sample ID: Method Blank

Prep Type: Total

Prep Batch: 11G0671\_P

Analyte	Blank	Blank	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier					Prepared	Analyzed	Dil Fac
Ethylene Glycol	<10.0		10.0		mg/L		07/06/11 09:45	07/06/11 10:22	1.00
<hr/>									
Surrogate	Blank	Blank	Limits	Prepared	Analyzed	Dil Fac	Prepared	Analyzed	Dil Fac
	% Recovery	Qualifier							
2-Butoxyethanol	87		65 - 128				07/06/11 09:45	07/06/11 10:22	1.00

Lab Sample ID: 11G0671-BS1

Matrix: Water

Analysis Batch: U011950

Client Sample ID: Lab Control Sample

Prep Type: Total

Prep Batch: 11G0671\_P

Analyte	Spike	LCS	LCS	Unit	D	% Rec.	Limits
	Added	Result	Qualifier				
Ethylene Glycol	50.0	45.3		mg/L		91	70 - 130
<hr/>							
Surrogate	LCS	LCS	Limits	Prepared	Analyzed	Dil Fac	Prepared
	% Recovery	Qualifier	Limits				
2-Butoxyethanol	83		65 - 128				

Lab Sample ID: 11G0671-BSD1

Matrix: Water

Analysis Batch: U011950

Client Sample ID: Lab Control Sample Dup

Prep Type: Total

Prep Batch: 11G0671\_P

Analyte	Spike	LCS Dup	LCS Dup	Unit	D	% Rec.	RPD
	Added	Result	Qualifier				
Ethylene Glycol	50.0	43.0		mg/L		86	70 - 130
<hr/>							
Surrogate	LCS Dup	LCS Dup	Limits	Prepared	Analyzed	Dil Fac	Prepared
	% Recovery	Qualifier	Limits				
2-Butoxyethanol	80		65 - 128				

## Method: 300.1B - Disinfection By-Products, (IC)

Lab Sample ID: MB 680-208216/7

Matrix: Water

Analysis Batch: 208216

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier					Prepared	Analyzed	Dil Fac
Bromide	<20		20		ug/L		07/06/11 20:31		1
<hr/>									
Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac	Prepared	Analyzed	Dil Fac
	% Recovery	Qualifier							
Dichloroacetic acid	100		90 - 115				07/06/11 20:31		1

TestAmerica Savannah

# QC Sample Results

Client: Cabot Oil & Gas  
Project/Site: PASUS - Dimock

TestAmerica Job ID: 680-70010-1

## Method: 300.1B - Disinfection By-Products, (IC) (Continued)

**Lab Sample ID: LCS 680-208216/9**

**Matrix: Water**

**Analysis Batch: 208216**

**Client Sample ID: Lab Control Sample**

**Prep Type: Total/NA**

Analyte	Spike		LCS Result	LCS Qualifier	Unit	D	% Rec.	% Rec.
	Added							
Bromide	50.0		54.8		ug/L	110	85 - 115	
<b>Surrogate</b>								
Surrogate	LCS	LCS	% Recovery	Qualifier	Limits	D	% Rec.	RPD
	% Recovery	Qualifier						
Dichloroacetic acid	97		90 - 115					

**Lab Sample ID: LCSD 680-208216/10**

**Matrix: Water**

**Analysis Batch: 208216**

**Client Sample ID: Lab Control Sample Dup**

**Prep Type: Total/NA**

Analyte	Spike		LCSD Result	LCSD Qualifier	Unit	D	% Rec.	% Rec.	RPD
	Added								
Bromide	50.0		52.1		ug/L	104	85 - 115	5	10
<b>Surrogate</b>									
Surrogate	LCS	LCS	% Recovery	Qualifier	Limits	D	% Rec.	RPD	Limit
	% Recovery	Qualifier							
Dichloroacetic acid	98		90 - 115						

**Lab Sample ID: 680-70010-2 MS**

**Matrix: Drinking Water**

**Analysis Batch: 208216**

**Client Sample ID: Before Treatment @ Well Head - 600 gallons**

**Prep Type: Total/NA**

Analyte	Sample	Sample	Spike		MS		D	% Rec.	% Rec.
	Result	Qualifier	Added		Result	Qualifier			
Bromide	<20		50.0		68.0		ug/L	104	75 - 125
<b>Surrogate</b>									
Surrogate	MS	MS	% Recovery	Qualifier	Limits	D	% Rec.	RPD	Limit
	% Recovery	Qualifier							
Dichloroacetic acid	97		90 - 115						

**Lab Sample ID: 680-70010-2 MSD**

**Matrix: Drinking Water**

**Analysis Batch: 208216**

**Client Sample ID: Before Treatment @ Well Head - 600 gallons**

**Prep Type: Total/NA**

Analyte	Sample	Sample	Spike		MSD		D	% Rec.	% Rec.
	Result	Qualifier	Added		Result	Qualifier			
Bromide	<20		50.0		65.2		ug/L	98	75 - 125
<b>Surrogate</b>									
Surrogate	MSD	MSD	% Recovery	Qualifier	Limits	D	% Rec.	RPD	Limit
	% Recovery	Qualifier							
Dichloroacetic acid	97		90 - 115						

## Method: 200.7 Rev 4.4 - Metals (ICP)

**Lab Sample ID: MB 680-208323/1-A**

**Matrix: Water**

**Analysis Batch: 208476**

**Client Sample ID: Method Blank**

**Prep Type: Total/NA**

**Prep Batch: 208323**

Analyte	MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Calcium	<0.50		0.50		mg/L		07/08/11 11:10	07/09/11 13:01	1
Iron	<0.050		0.050		mg/L		07/08/11 11:10	07/09/11 13:01	1
Magnesium	<0.50		0.50		mg/L		07/08/11 11:10	07/09/11 13:01	1
Potassium	<1.0		1.0		mg/L		07/08/11 11:10	07/09/11 13:01	1
Sodium	<1.0		1.0		mg/L		07/08/11 11:10	07/09/11 13:01	1

TestAmerica Savannah

# QC Sample Results

Client: Cabot Oil & Gas  
Project/Site: PASUS - Dimock

TestAmerica Job ID: 680-70010-1

## Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

**Lab Sample ID: LCS 680-208323/2-A**

**Matrix: Water**

**Analysis Batch: 208476**

**Client Sample ID: Lab Control Sample**

**Prep Type: Total/NA**

**Prep Batch: 208323**

Analyte		Spike	LCS			Unit	D	% Rec	Limits	
		Added	Result	Qualifier						
Calcium		5.00	4.50			mg/L		90	85 - 115	
Iron		1.00	0.923			mg/L		92	85 - 115	
Magnesium		5.00	4.40			mg/L		88	85 - 115	
Potassium		5.00	4.65			mg/L		93	85 - 115	
Sodium		5.00	4.28			mg/L		86	85 - 115	

**Lab Sample ID: 680-70010-3 MS**

**Matrix: Drinking Water**

**Analysis Batch: 208476**

**Client Sample ID: Before Treatment @ Hydrant - 450 gallons**

**Prep Type: Total/NA**

**Prep Batch: 208323**

Analyte	Sample	Sample	Spike	MS			Unit	D	% Rec	Limits
	Result	Qualifier	Added	Result	Qualifier					
Calcium	33		5.00	39.2	4		mg/L		117	75 - 125
Iron	6.8		1.00	7.52	4		mg/L		68	75 - 125
Magnesium	7.8		5.00	12.5			mg/L		94	75 - 125
Potassium	3.2		5.00	7.46			mg/L		86	75 - 125
Sodium	12		5.00	16.8			mg/L		96	75 - 125

**Lab Sample ID: 680-70010-3 MSD**

**Matrix: Drinking Water**

**Analysis Batch: 208476**

**Client Sample ID: Before Treatment @ Hydrant - 450 gallons**

**Prep Type: Total/NA**

**Prep Batch: 208323**

Analyte	Sample	Sample	Spike	MSD			Unit	D	% Rec	Limits	RPD
	Result	Qualifier	Added	Result	Qualifier						
Calcium	33		5.00	38.1	4		mg/L		96	75 - 125	3
Iron	6.8		1.00	7.32	4		mg/L		48	75 - 125	3
Magnesium	7.8		5.00	12.3			mg/L		91	75 - 125	1
Potassium	3.2		5.00	7.49			mg/L		86	75 - 125	0
Sodium	12		5.00	16.5			mg/L		89	75 - 125	2

## Method: 200.8 - Metals (ICP/MS)

**Lab Sample ID: MB 680-208321/1-A**

**Matrix: Water**

**Analysis Batch: 208515**

**Client Sample ID: Method Blank**

**Prep Type: Total/NA**

**Prep Batch: 208321**

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Aluminum	<0.010		0.010		mg/L		07/08/11 11:03	07/09/11 16:16	1
Arsenic	<0.0010		0.0010		mg/L		07/08/11 11:03	07/09/11 16:16	1
Barium	<0.0020		0.0020		mg/L		07/08/11 11:03	07/09/11 16:16	1
Cadmium	<0.00010		0.00010		mg/L		07/08/11 11:03	07/09/11 16:16	1
Chromium	<0.0020		0.0020		mg/L		07/08/11 11:03	07/09/11 16:16	1
Lead	<0.00030		0.00030		mg/L		07/08/11 11:03	07/09/11 16:16	1
Manganese	<0.0025		0.0025		mg/L		07/08/11 11:03	07/09/11 16:16	1
Mercury	<0.00020		0.00020		mg/L		07/08/11 11:03	07/09/11 16:16	1
Selenium	<0.0020		0.0020		mg/L		07/08/11 11:03	07/09/11 16:16	1
Silver	<0.0010		0.0010		mg/L		07/08/11 11:03	07/09/11 16:16	1
Strontium	<0.00020		0.00020		mg/L		07/08/11 11:03	07/09/11 16:16	1

TestAmerica Savannah

# QC Sample Results

Client: Cabot Oil & Gas  
Project/Site: PASUS - Dimock

TestAmerica Job ID: 680-70010-1

## Method: 200.8 - Metals (ICP/MS) (Continued)

**Lab Sample ID: LCS 680-208321/2-A**

**Matrix: Water**

**Analysis Batch: 208515**

**Client Sample ID: Lab Control Sample**

**Prep Type: Total/NA**

**Prep Batch: 208321**

Analyte	Spike		LCS			Unit	D	% Rec	Limits
	Added	Result	Qualifier	LCS	Unit				
Aluminum	1.00	0.913		mg/L		91		85 - 115	
Arsenic	0.0200	0.0178		mg/L		89		85 - 115	
Barium	0.0200	0.0201		mg/L		100		85 - 115	
Cadmium	0.0100	0.00971		mg/L		97		85 - 115	
Chromium	0.0200	0.0194		mg/L		97		85 - 115	
Lead	0.0100	0.00999		mg/L		100		85 - 115	
Manganese	0.100	0.103		mg/L		103		85 - 115	
Mercury	0.00100	0.000892		mg/L		89		85 - 115	
Selenium	0.0200	0.0178		mg/L		89		85 - 115	
Silver	0.0100	0.0100		mg/L		100		85 - 115	
Strontium	0.0200	0.0193		mg/L		96		85 - 115	

**Lab Sample ID: 680-70010-3 MS**

**Matrix: Drinking Water**

**Analysis Batch: 208515**

**Client Sample ID: Before Treatment @ Hydrant - 450 gallons**

**Prep Type: Total/NA**

**Prep Batch: 208321**

Analyte	Sample		Spike		MS			Unit	D	% Rec	Limits
	Result	Qualifier	Added	Result	Qualifier	MS	MS				
Aluminum	3.1		1.00	3.94		mg/L		84		70 - 130	
Arsenic	0.0077		0.0200	0.0268		mg/L		95		70 - 130	
Barium	0.29		0.0200	0.329	4	mg/L		174		70 - 130	
Cadmium	<0.00010		0.0100	0.0100		mg/L		100		70 - 130	
Chromium	0.0035		0.0200	0.0225		mg/L		95		70 - 130	
Lead	0.0064		0.0100	0.0170		mg/L		106		70 - 130	
Manganese	0.19		0.100	0.303		mg/L		108		70 - 130	
Mercury	<0.00020		0.00100	0.00101		mg/L		101		70 - 130	
Selenium	<0.0020		0.0200	0.0183		mg/L		92		70 - 130	
Silver	<0.0010		0.0100	0.00973		mg/L		97		70 - 130	
Strontium	0.72		0.0200	0.771	4	mg/L		252		70 - 130	

**Lab Sample ID: 680-70010-3 MSD**

**Matrix: Drinking Water**

**Analysis Batch: 208515**

**Client Sample ID: Before Treatment @ Hydrant - 450 gallons**

**Prep Type: Total/NA**

**Prep Batch: 208321**

Analyte	Sample		Spike		MSD			Unit	D	% Rec	Limits	RPD
	Result	Qualifier	Added	Result	Qualifier	MSD	MSD					
Aluminum	3.1		1.00	3.86		mg/L		77		70 - 130	2	20
Arsenic	0.0077		0.0200	0.0260		mg/L		91		70 - 130	3	20
Barium	0.29		0.0200	0.314	4	mg/L		98		70 - 130	5	20
Cadmium	<0.00010		0.0100	0.0101		mg/L		101		70 - 130	1	20
Chromium	0.0035		0.0200	0.0222		mg/L		93		70 - 130	1	20
Lead	0.0064		0.0100	0.0165		mg/L		101		70 - 130	3	20
Manganese	0.19		0.100	0.282		mg/L		88		70 - 130	7	20
Mercury	<0.00020		0.00100	0.000967		mg/L		97		70 - 130	4	20
Selenium	<0.0020		0.0200	0.0179		mg/L		90		70 - 130	2	20
Silver	<0.0010		0.0100	0.00969		mg/L		97		70 - 130	0	20
Strontium	0.72		0.0200	0.750	4	mg/L		146		70 - 130	3	20

TestAmerica Savannah

# QC Sample Results

Client: Cabot Oil & Gas  
Project/Site: PASUS - Dimock

TestAmerica Job ID: 680-70010-1

## Method: SM 2340B - Total Hardness (as CaCO<sub>3</sub>) by calculation

Lab Sample ID: MB 680-208615/1

Matrix: Water

Analysis Batch: 208615

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ca	<0.50		0.50		mg/L			07/09/11 13:01	1
Hardness as calcium carbonate	<3.3		3.3		mg/L			07/09/11 13:01	1
Mg	<0.50		0.50		mg/L			07/09/11 13:01	1

## Method: 1664A - HEM and SGT-HEM

Lab Sample ID: MB 680-208135/13

Matrix: Water

Analysis Batch: 208135

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Oil & Grease	<5.0		5.0		mg/L			07/07/11 13:30	1

Lab Sample ID: LCS 680-208135/14

Matrix: Water

Analysis Batch: 208135

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec.	Limits
Oil & Grease	40.0	39.4		mg/L		99	78 - 114

## Method: 2540 C - Total Dissolved Solids - SM 20th Ed.

Lab Sample ID: MB 680-207901/1

Matrix: Water

Analysis Batch: 207901

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<5.0		5.0		mg/L			07/03/11 08:48	1

Lab Sample ID: LCS 680-207901/2

Matrix: Water

Analysis Batch: 207901

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec.	Limits
Total Dissolved Solids	374	371		mg/L		99	80 - 120

Lab Sample ID: LCSD 680-207901/3

Matrix: Water

Analysis Batch: 207901

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	% Rec.	RPD	Limit
Total Dissolved Solids	374	379		mg/L		101	80 - 120	2

TestAmerica Savannah

# QC Sample Results

Client: Cabot Oil & Gas  
Project/Site: PASUS - Dimock

TestAmerica Job ID: 680-70010-1

## Method: 300.0 - Anions, Ion Chromatography

**Lab Sample ID:** MB 680-208245/2

**Matrix:** Water

**Analysis Batch:** 208245

**Client Sample ID:** Method Blank

**Prep Type:** Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	<0.050		0.050		mg/L			07/01/11 21:12	1

**Lab Sample ID:** LCS 680-208245/3

**Matrix:** Water

**Analysis Batch:** 208245

**Client Sample ID:** Lab Control Sample

**Prep Type:** Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	Limits
Nitrate as N	0.999	1.04		mg/L		104	90 - 110

**Lab Sample ID:** LCSD 680-208245/4

**Matrix:** Water

**Analysis Batch:** 208245

**Client Sample ID:** Lab Control Sample Dup

**Prep Type:** Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	% Rec	RPD	Limit
Nitrate as N	0.999	1.04		mg/L		104	90 - 110	0

**Lab Sample ID:** MB 680-208386/2

**Matrix:** Water

**Analysis Batch:** 208386

**Client Sample ID:** Method Blank

**Prep Type:** Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<1.0		1.0		mg/L			07/08/11 12:13	1
Sulfate	<1.0		1.0		mg/L			07/08/11 12:13	1

**Lab Sample ID:** LCS 680-208386/3

**Matrix:** Water

**Analysis Batch:** 208386

**Client Sample ID:** Lab Control Sample

**Prep Type:** Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	Limits
Chloride	10.0	10.3		mg/L		103	90 - 110
Sulfate	10.0	10.7		mg/L		107	90 - 110

**Lab Sample ID:** 680-70010-2 MS

**Matrix:** Drinking Water

**Analysis Batch:** 208386

**Client Sample ID:** Before Treatment @ Well Head - 600 gallons

**Prep Type:** Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	% Rec	Limits
Chloride	8.3		10.0	19.1		mg/L		108	90 - 110
Sulfate	11		10.0	21.7		mg/L		107	90 - 110

**Lab Sample ID:** 680-70010-2 MSD

**Matrix:** Drinking Water

**Analysis Batch:** 208386

**Client Sample ID:** Before Treatment @ Well Head - 600 gallons

**Prep Type:** Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	% Rec	RPD	Limit
Chloride	8.3		10.0	19.0		mg/L		107	90 - 110	0
Sulfate	11		10.0	21.7		mg/L		107	90 - 110	0

TestAmerica Savannah

# QC Sample Results

Client: Cabot Oil & Gas  
Project/Site: PASUS - Dimock

TestAmerica Job ID: 680-70010-1

## Method: SM 2130B - Turbidity

Lab Sample ID: MB 680-207861/1

Matrix: Water

Analysis Batch: 207861

Client Sample ID: Method Blank  
Prep Type: Total/NA

MB MB

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Turbidity	<0.10		0.10		NTU			07/01/11 14:40	1

Lab Sample ID: LCS 680-207861/2

Matrix: Water

Analysis Batch: 207861

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

MB MB

Analyte	Spike	LCS	LCS	% Rec.			
	Added	Result	Qualifier	Unit	D	% Rec	Limits
Turbidity		1.56	1.52	NTU		97	90 - 110

## Method: SM 2320B - Alkalinity

Lab Sample ID: MB 680-207983/1

Matrix: Water

Analysis Batch: 207983

Client Sample ID: Method Blank  
Prep Type: Total/NA

MB MB

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	<5.0		5.0		mg/L			07/03/11 09:26	1

Lab Sample ID: LCS 680-207983/2

Matrix: Water

Analysis Batch: 207983

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

MB MB

Analyte	Spike	LCS	LCS	% Rec.			
	Added	Result	Qualifier	Unit	D	% Rec	Limits
Alkalinity		252	231	mg/L		92	80 - 120

Lab Sample ID: LCSD 680-207983/13

Matrix: Water

Analysis Batch: 207983

Client Sample ID: Lab Control Sample Dup  
Prep Type: Total/NA

MB MB

Analyte	Spike	LCSD	LCSD	% Rec.	RPD				
	Added	Result	Qualifier	Unit	D	% Rec	Limits	RPD	Limit
Alkalinity		252	205	mg/L		82	80 - 120	12	30

## Method: SM 2540D - Solids, Total Suspended (TSS)

Lab Sample ID: MB 680-207902/1

Matrix: Water

Analysis Batch: 207902

Client Sample ID: Method Blank  
Prep Type: Total/NA

MB MB

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	<5.0		5.0		mg/L			07/03/11 09:24	1

Lab Sample ID: LCS 680-207902/2

Matrix: Water

Analysis Batch: 207902

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

MB MB

Analyte	Spike	LCS	LCS	% Rec.			
	Added	Result	Qualifier	Unit	D	% Rec	Limits
Total Suspended Solids		100	102	mg/L		102	80 - 120

TestAmerica Savannah

# QC Sample Results

Client: Cabot Oil & Gas  
Project/Site: PASUS - Dimock

TestAmerica Job ID: 680-70010-1

## Method: SM 2540D - Solids, Total Suspended (TSS) (Continued)

Lab Sample ID: LCSD 680-207902/3

Client Sample ID: Lab Control Sample Dup  
Prep Type: Total/NA

Matrix: Water

Analysis Batch: 207902

Analyte	Spike	LCSD	LCSD	Unit	D	% Rec.	% Rec.	RPD	RPD	Limit
	Added	Result	Qualifier				Limits			
Total Suspended Solids	100	103		mg/L		103	80 - 120	0	25	

## Method: SM 4500 S2 F - Sulfide, Total

Lab Sample ID: MB 680-208015/1

Client Sample ID: Method Blank  
Prep Type: Total/NA

Matrix: Water

Analysis Batch: 208015

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Sulfide	<1.0		1.0		mg/L			07/05/11 16:50	1

Lab Sample ID: LCS 680-208015/2

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Matrix: Water

Analysis Batch: 208015

Analyte	Spike	LCS	LCS	Unit	D	% Rec.	% Rec.
	Added	Result	Qualifier				Limits
Sulfide	10.0	11.3		mg/L		113	75 - 125

Lab Sample ID: LCSD 680-208015/7

Client Sample ID: Lab Control Sample Dup  
Prep Type: Total/NA

Matrix: Water

Analysis Batch: 208015

Analyte	Spike	LCSD	LCSD	Unit	D	% Rec.	% Rec.
	Added	Result	Qualifier				Limits
Sulfide	10.0	11.1		mg/L		111	75 - 125

## Method: SM 5540C - Methylene Blue Active Substances (MBAS)

Lab Sample ID: MB 680-208246/21

Client Sample ID: Method Blank  
Prep Type: Total/NA

Matrix: Water

Analysis Batch: 208246

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Methylene Blue Active Substances	<0.20		0.20		mg/l LAS MW 340			07/07/11 13:21	1

Lab Sample ID: LCS 680-208246/22

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Matrix: Water

Analysis Batch: 208246

Analyte	Spike	LCs	LCs	Unit	D	% Rec.	% Rec.
	Added	Result	Qualifier				Limits
Methylene Blue Active Substances	0.500	0.536		mg/l LAS MW 340		107	70 - 130

TestAmerica Savannah

# QC Association Summary

Client: Cabot Oil & Gas  
Project/Site: PASUS - Dimock

TestAmerica Job ID: 680-70010-1

## GCMS Volatiles

### Analysis Batch: U012316

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
11G0373-BS1	Lab Control Sample	Total	Water	EPA 524.2	11G0373_P
11G0373-BSD1	Lab Control Sample Dup	Total	Water	EPA 524.2	11G0373_P
11G0373-BLK1	Method Blank	Total	Water	EPA 524.2	11G0373_P
680-70010-1	Before Treatment @ Hydrant -150 gallons	Total	Drinking Water	EPA 524.2	11G0373_P
680-70010-2	Before Treatment @ Well Head - 600 gallons	Total	Drinking Water	EPA 524.2	11G0373_P

### Prep Batch: 11G0373\_P

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
11G0373-BS1	Lab Control Sample	Total	Water	EPA 524.2	11G0373_P
11G0373-BSD1	Lab Control Sample Dup	Total	Water	EPA 524.2	11G0373_P
11G0373-BLK1	Method Blank	Total	Water	EPA 524.2	11G0373_P
680-70010-1	Before Treatment @ Hydrant -150 gallons	Total	Drinking Water	EPA 524.2	11G0373_P
680-70010-2	Before Treatment @ Well Head - 600 gallons	Total	Drinking Water	EPA 524.2	11G0373_P

## Pesticides

### Analysis Batch: U011861

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
11G0549-BLK1	Method Blank	Dissolved	Water	RSK 175	11G0549_P
11G0549-BS1	Lab Control Sample	Dissolved	Water	RSK 175	11G0549_P
11G0549-BSD1	Lab Control Sample Dup	Dissolved	Water	RSK 175	11G0549_P
680-70010-1	Before Treatment @ Hydrant -150 gallons	Dissolved	Drinking Water	RSK 175	11G0549_P
680-70010-1 - RE1	Before Treatment @ Hydrant -150 gallons	Dissolved	Drinking Water	RSK 175	11G0549_P
680-70010-2	Before Treatment @ Well Head - 600 gallons	Dissolved	Drinking Water	RSK 175	11G0549_P

### Analysis Batch: U011950

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
11G0671-BLK1	Method Blank	Total	Water	SW846 8015B	11G0671_P
11G0671-BS1	Lab Control Sample	Total	Water	SW846 8015B	11G0671_P
11G0671-BSD1	Lab Control Sample Dup	Total	Water	SW846 8015B	11G0671_P
680-70010-1	Before Treatment @ Hydrant -150 gallons	Total	Drinking Water	SW846 8015B	11G0671_P
680-70010-2	Before Treatment @ Well Head - 600 gallons	Total	Drinking Water	SW846 8015B	11G0671_P

### Prep Batch: 11G0549\_P

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
11G0549-BLK1	Method Blank	Dissolved	Water	RSK 175/3810	
11G0549-BS1	Lab Control Sample	Dissolved	Water	RSK 175/3810	
11G0549-BSD1	Lab Control Sample Dup	Dissolved	Water	RSK 175/3810	
680-70010-1	Before Treatment @ Hydrant -150 gallons	Dissolved	Drinking Water	RSK 175/3810	
680-70010-1 - RE1	Before Treatment @ Hydrant -150 gallons	Dissolved	Drinking Water	RSK 175/3810	
680-70010-2	Before Treatment @ Well Head - 600 gallons	Dissolved	Drinking Water	RSK 175/3810	

### Prep Batch: 11G0671\_P

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
11G0671-BLK1	Method Blank	Total	Water	NO PREP-PEST	
11G0671-BS1	Lab Control Sample	Total	Water	NO PREP-PEST	
11G0671-BSD1	Lab Control Sample Dup	Total	Water	NO PREP-PEST	
680-70010-1	Before Treatment @ Hydrant -150 gallons	Total	Drinking Water	NO PREP-PEST	
680-70010-2	Before Treatment @ Well Head - 600 gallons	Total	Drinking Water	NO PREP-PEST	

TestAmerica Savannah

# QC Association Summary

Client: Cabot Oil & Gas  
Project/Site: PASUS - Dimock

TestAmerica Job ID: 680-70010-1

## HPLC/IC

### Analysis Batch: 208216

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 680-208216/7	Method Blank	Total/NA	Water	300.1B	
LCS 680-208216/9	Lab Control Sample	Total/NA	Water	300.1B	
LCSD 680-208216/10	Lab Control Sample Dup	Total/NA	Water	300.1B	
680-70010-1	Before Treatment @ Hydrant -150 gallons	Total/NA	Drinking Water	300.1B	
680-70010-2	Before Treatment @ Well Head - 600 gallons	Total/NA	Drinking Water	300.1B	
680-70010-2 MS	Before Treatment @ Well Head - 600 gallons	Total/NA	Drinking Water	300.1B	
680-70010-2 MSD	Before Treatment @ Well Head - 600 gallons	Total/NA	Drinking Water	300.1B	

## Metals

### Prep Batch: 208321

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 680-208321/1-A	Method Blank	Total/NA	Water	200	
LCS 680-208321/2-A	Lab Control Sample	Total/NA	Water	200	
680-70010-1	Before Treatment @ Hydrant -150 gallons	Total/NA	Drinking Water	200	
680-70010-2	Before Treatment @ Well Head - 600 gallons	Total/NA	Drinking Water	200	
680-70010-3	Before Treatment @ Hydrant - 450 gallons	Total/NA	Drinking Water	200	
680-70010-3 MS	Before Treatment @ Hydrant - 450 gallons	Total/NA	Drinking Water	200	
680-70010-3 MSD	Before Treatment @ Hydrant - 450 gallons	Total/NA	Drinking Water	200	
680-70010-4	Before Treatment @ Hydrant - 300 gallons	Total/NA	Drinking Water	200	

### Prep Batch: 208323

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 680-208323/1-A	Method Blank	Total/NA	Water	200	
LCS 680-208323/2-A	Lab Control Sample	Total/NA	Water	200	
680-70010-1	Before Treatment @ Hydrant -150 gallons	Total/NA	Drinking Water	200	
680-70010-2	Before Treatment @ Well Head - 600 gallons	Total/NA	Drinking Water	200	
680-70010-3	Before Treatment @ Hydrant - 450 gallons	Total/NA	Drinking Water	200	
680-70010-3 MS	Before Treatment @ Hydrant - 450 gallons	Total/NA	Drinking Water	200	
680-70010-3 MSD	Before Treatment @ Hydrant - 450 gallons	Total/NA	Drinking Water	200	
680-70010-4	Before Treatment @ Hydrant - 300 gallons	Total/NA	Drinking Water	200	

### Analysis Batch: 208476

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 680-208323/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	208323
LCS 680-208323/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	208323
680-70010-1	Before Treatment @ Hydrant -150 gallons	Total/NA	Drinking Water	200.7 Rev 4.4	208323
680-70010-2	Before Treatment @ Well Head - 600 gallons	Total/NA	Drinking Water	200.7 Rev 4.4	208323
680-70010-3	Before Treatment @ Hydrant - 450 gallons	Total/NA	Drinking Water	200.7 Rev 4.4	208323
680-70010-3 MS	Before Treatment @ Hydrant - 450 gallons	Total/NA	Drinking Water	200.7 Rev 4.4	208323
680-70010-3 MSD	Before Treatment @ Hydrant - 450 gallons	Total/NA	Drinking Water	200.7 Rev 4.4	208323
680-70010-4	Before Treatment @ Hydrant - 300 gallons	Total/NA	Drinking Water	200.7 Rev 4.4	208323

### Analysis Batch: 208515

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 680-208321/1-A	Method Blank	Total/NA	Water	200.8	208321
LCS 680-208321/2-A	Lab Control Sample	Total/NA	Water	200.8	208321
680-70010-1	Before Treatment @ Hydrant -150 gallons	Total/NA	Drinking Water	200.8	208321
680-70010-2	Before Treatment @ Well Head - 600 gallons	Total/NA	Drinking Water	200.8	208321
680-70010-3	Before Treatment @ Hydrant - 450 gallons	Total/NA	Drinking Water	200.8	208321
680-70010-3 MS	Before Treatment @ Hydrant - 450 gallons	Total/NA	Drinking Water	200.8	208321
680-70010-3 MSD	Before Treatment @ Hydrant - 450 gallons	Total/NA	Drinking Water	200.8	208321

TestAmerica Savannah

# QC Association Summary

Client: Cabot Oil & Gas  
Project/Site: PASUS - Dimock

TestAmerica Job ID: 680-70010-1

## Metals (Continued)

### Analysis Batch: 208515 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-70010-4	Before Treatment @ Hydrant - 300 gallons	Total/NA	Drinking Water	200.8	208321

### Analysis Batch: 208615

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 680-208615/1	Method Blank	Total/NA	Water	SM 2340B	5
680-70010-1	Before Treatment @ Hydrant -150 gallons	Total/NA	Drinking Water	SM 2340B	7
680-70010-2	Before Treatment @ Well Head - 600 gallons	Total/NA	Drinking Water	SM 2340B	8

## General Chemistry

### Analysis Batch: 207861

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 680-207861/1	Method Blank	Total/NA	Water	SM 2130B	10
LCS 680-207861/2	Lab Control Sample	Total/NA	Water	SM 2130B	11
680-70010-1	Before Treatment @ Hydrant -150 gallons	Total/NA	Drinking Water	SM 2130B	
680-70010-2	Before Treatment @ Well Head - 600 gallons	Total/NA	Drinking Water	SM 2130B	

### Analysis Batch: 207901

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 680-207901/1	Method Blank	Total/NA	Water	2540 C	
LCS 680-207901/2	Lab Control Sample	Total/NA	Water	2540 C	
LCSD 680-207901/3	Lab Control Sample Dup	Total/NA	Water	2540 C	
680-70010-1	Before Treatment @ Hydrant -150 gallons	Total/NA	Drinking Water	2540 C	
680-70010-2	Before Treatment @ Well Head - 600 gallons	Total/NA	Drinking Water	2540 C	

### Analysis Batch: 207902

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 680-207902/1	Method Blank	Total/NA	Water	SM 2540D	
LCS 680-207902/2	Lab Control Sample	Total/NA	Water	SM 2540D	
LCSD 680-207902/3	Lab Control Sample Dup	Total/NA	Water	SM 2540D	
680-70010-1	Before Treatment @ Hydrant -150 gallons	Total/NA	Drinking Water	SM 2540D	
680-70010-2	Before Treatment @ Well Head - 600 gallons	Total/NA	Drinking Water	SM 2540D	
680-70010-3	Before Treatment @ Hydrant - 450 gallons	Total/NA	Drinking Water	SM 2540D	
680-70010-4	Before Treatment @ Hydrant - 300 gallons	Total/NA	Drinking Water	SM 2540D	

### Analysis Batch: 207983

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 680-207983/1	Method Blank	Total/NA	Water	SM 2320B	
LCS 680-207983/2	Lab Control Sample	Total/NA	Water	SM 2320B	
680-70010-1	Before Treatment @ Hydrant -150 gallons	Total/NA	Drinking Water	SM 2320B	
680-70010-2	Before Treatment @ Well Head - 600 gallons	Total/NA	Drinking Water	SM 2320B	
LCSD 680-207983/13	Lab Control Sample Dup	Total/NA	Water	SM 2320B	

### Analysis Batch: 208015

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 680-208015/1	Method Blank	Total/NA	Water	SM 4500 S2 F	
LCS 680-208015/2	Lab Control Sample	Total/NA	Water	SM 4500 S2 F	
680-70010-1	Before Treatment @ Hydrant -150 gallons	Total/NA	Drinking Water	SM 4500 S2 F	
680-70010-2	Before Treatment @ Well Head - 600 gallons	Total/NA	Drinking Water	SM 4500 S2 F	
LCSD 680-208015/7	Lab Control Sample Dup	Total/NA	Water	SM 4500 S2 F	

TestAmerica Savannah

# QC Association Summary

Client: Cabot Oil & Gas  
Project/Site: PASUS - Dimock

TestAmerica Job ID: 680-70010-1

## General Chemistry (Continued)

### Analysis Batch: 208135

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-70010-1	Before Treatment @ Hydrant -150 gallons	Total/NA	Drinking Water	1664A	
680-70010-2	Before Treatment @ Well Head - 600 gallons	Total/NA	Drinking Water	1664A	
MB 680-208135/13	Method Blank	Total/NA	Water	1664A	
LCS 680-208135/14	Lab Control Sample	Total/NA	Water	1664A	

### Analysis Batch: 208245

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 680-208245/2	Method Blank	Total/NA	Water	300.0	
LCS 680-208245/3	Lab Control Sample	Total/NA	Water	300.0	
LCSD 680-208245/4	Lab Control Sample Dup	Total/NA	Water	300.0	
680-70010-1	Before Treatment @ Hydrant -150 gallons	Total/NA	Drinking Water	300.0	
680-70010-2	Before Treatment @ Well Head - 600 gallons	Total/NA	Drinking Water	300.0	

### Analysis Batch: 208246

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-70010-1	Before Treatment @ Hydrant -150 gallons	Total/NA	Drinking Water	SM 5540C	
680-70010-2	Before Treatment @ Well Head - 600 gallons	Total/NA	Drinking Water	SM 5540C	
MB 680-208246/21	Method Blank	Total/NA	Water	SM 5540C	
LCS 680-208246/22	Lab Control Sample	Total/NA	Water	SM 5540C	

### Analysis Batch: 208386

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 680-208386/2	Method Blank	Total/NA	Water	300.0	
LCS 680-208386/3	Lab Control Sample	Total/NA	Water	300.0	
680-70010-1	Before Treatment @ Hydrant -150 gallons	Total/NA	Drinking Water	300.0	
680-70010-2	Before Treatment @ Well Head - 600 gallons	Total/NA	Drinking Water	300.0	
680-70010-2 MS	Before Treatment @ Well Head - 600 gallons	Total/NA	Drinking Water	300.0	
680-70010-2 MSD	Before Treatment @ Well Head - 600 gallons	Total/NA	Drinking Water	300.0	

TestAmerica Savannah

## Chain of Custody Record

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Quantum A/E

TestAmerica Laboratory location: Pittsburgh — 301 Alpha Drive / Pittsburgh, PA 15238 / 412-963-7058

Client Contact			Regulatory program: <input checked="" type="checkbox"/> DW <input type="checkbox"/> NPDES <input type="checkbox"/> RCRA <input type="checkbox"/> Other								TestAmerica Laboratories, Inc.								
Company Name: Cabot Oil & Gas Corporation Address: Penn Center West y/State/Zip: sburgh, PA 15275 nce: 412-249-3821 ject Name: SUS-Dimock-200.00-1,083.00,000. n: 1,00-1,083.00,000.			Client Project Manager: Phillip Levasseur Telephone: 412-249-3821 Email: philip.levasseur@cabotog.com				Site Contact: Virgil Runco Telephone: 570-486-8984			Lab Contact: Telephone:			COC No:						
													1 of 1 COCs						
													Method of Shipment/Carrier:						
													Shipping/Tracking No:						
Sample Identification			Sample Date	Sample Time	Air	Acidic	Solvent	Solid	Other	H2SO4	HNO3	HCl	NH3	ZnAc2	NaOH	Urea	Others	TSP	Analyses
before Treatment @ hydrant			06/24/11	13:35	X					X									2018A Metals & 245.1 Mercury
~150 gallons			06/24/11	13:35	X					X									1834A HEM, Oil & Grease
					X					X									8016B Ethylene Glyols
					X					X									8220B, Vocs BTEx
					X					X									MBAS
					X					X									RSK175 Methane, Ethane & Propane
					X					X									Conductivity, Cr, SCN, Alk, TDS, TSS, Turbidity, Nitrate, pH
					X					X									Sulfate
																			Sample Specific Notes / Special Instructions:
																			Plus Strontium, Aluminum

Possible Hazard Identification  
 Non-Hazard  Flammable  Skin Irritant  Poison B  Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)  
 Return to Client  Disposal By Lab  Archive For \_\_\_\_\_ Months

Special Instructions/QC Requirements &amp; Comments:

2.0°C 620-7000

Discharged by: 	Company: AMEC Quantum	Date/Time: 06/24/11 14:20	Received by: 	Company: TA	Date/Time: 6/28/11 1000
Discharged by: 	Company: TA	Date/Time: 6/30/11 1200	Received by: 	Company: TA	Date/Time:
Discharged by: 	Company: TA	Date/Time:	Received in Laboratory by: 	Company: TA	Date/Time: 6/7/11 0900

# Chain of Custody Record

**TestAmerica**

THE LEADER IN ENVIRONMENTAL TESTING

Quantum A/E

TestAmerica Laboratory location: Pittsburgh — 301 Alpha Drive / Pittsburgh, PA 15238 / 412-963-7058

Client Contact		Regulatory program: <input type="checkbox"/> DW <input type="checkbox"/> NPDES <input type="checkbox"/> RCRA <input checked="" type="checkbox"/> Other				Site Contact: Virgil Runco		Lab Contact:		Analyses		TestAmerica Laboratories, Inc.										
														Client Project Manager: Phillip Leyasseur		Telephone: 570-436-5994		Telephone:		COC No:		
Company Name: Soil Oil & Gas Corporation												1 of 1 COCs										
Address: Penn Center West																						
City/State/Zip: Pittsburgh, PA 15278																						
Phone: 412-249-3921																						
Object Name: SUS-Dinoc - 200.00-1,033.00,000.																						
# 1,00-1,033.00,000.						Method of Shipment/Carrier:																
#						Shipping/Tracking No:																
Sample Identification		Sample Date	Sample Time	Air	Aquatic	Soil	Sediment	Other	HSN04	HG05	HG06	HG07	HG08	200.8 Metals & 245.1 Mercury	1664A HEM, Oil & Grease	80165B Ethylene Glycol	8220B, Vocs BTX	MERAS	RSHK 175 Methane, Ethane & Propane	Corrosivity, Cr, SO <sub>4</sub> , AlK, TDS, TSS, Turbidity, Nitrate, pH	Sulfate	Sample Specific Notes / Special Instructions:
<i>Soil Treatment @ Well tail 09/24/11 5:10 ~600 gallons</i>				X		X				X	G	X	X		X						X	<i>Plus Strontium, Aluminum</i>
					X		X			X	G		X		X							
				X		X				X	G		X		X		X					
					X					X		X	X		X		X		X			
						X				X		X	G			X		X				
							X					X	G					X				
								X														
Possible Hazard Identification								Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)														
<input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown								<input type="checkbox"/> Return to Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For 1... Months														
Special Instructions/QC Requirements & Comments:																<i>2.0% 680-70010</i>						
Enriched by: <i>Mark M. Thacker</i>	Company: AMEC Quantum		Date/Time: 09-24-11 14:20		Received by: <i>[Signature]</i>		Company: <i>[Signature]</i>		Date/Time: 09-28-11 14:00													
Enriched by:	Company:		Date/Time:		Received by:		Company:		Date/Time:													
Enriched by:	Company:		Date/Time:		Received in Laboratory by: <i>Mark M. Thacker</i>		Company: <i>[Signature]</i>		Date/Time: 09-28-11 0940													

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## Chain of Custody Record

**TestAmerica**  
THE LEADER IN ENVIRONMENTAL TESTING

Quantum A/E

TestAmerica Laboratory location: Pittsburgh --- 301 Alpha Drive / Pittsburgh, PA 15238 / 412-963-7058

Client Contact		Regulatory program:		<input checked="" type="checkbox"/> DW	<input type="checkbox"/> NPDES	<input type="checkbox"/> RCRA	<input checked="" type="checkbox"/> Other													
Company Name: Total Oil & Gas Corporation Address: Penn Center West City/State/Zip: Pittsburgh, PA 15278 Tel: 412-249-3821 Project Name: SUS-Dilute-200.00-1,000.00,000. # Shipping/Tracking No:		Client Project Manager: Phillip Levasseur Telephone: 412-249-3921 Email: philip_levasseur@cabdog.com		Site Contact: Virgil Runco Telephone: 570-488-8964		Lab Contact: Telephone:		TestAmerica Laboratories, Inc. COC No: 1 of 1 COCs Laboratories Only Lab ID: Job Spec No: Sample Specific Notes / Special Instructions:												
								Analyses TAT If Requested (check below) <input type="checkbox"/> 3 weeks <input checked="" type="checkbox"/> 2 weeks <input type="checkbox"/> 1 week <input type="checkbox"/> 2 days <input type="checkbox"/> 1 day												
								200.B Metals & 245.1 Mercury TSS												
Sample Identification		Sample Date	Sample Time	Matrix	Medium	Specimen	Sample ID	Batch ID	Specimen ID	Specimen Date	Specimen Time	Specimen Notes	Specimen Type	Specimen Origin	Specimen Status	Specimen Disposal	Specimen Retention	Specimen Archiving	Specimen Disposal Date	Specimen Disposal Time
Before Treatment @ Hydrant		06/24/11	14:35	X																
~ 450 gallons		06/24/11	14:35	X			X													
Before Treatment @ Hydrant		06/24/11	14:15	X																
~ 300 gallons				X			X													
Possible Hazard Identification										Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)										
<input type="checkbox"/> Non-Hazard <input checked="" type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown										<input type="checkbox"/> Return to Client <input checked="" type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months										
Special Instructions/QC Requirements & Comments:										2.0°C 680-70010										
linquished by: <i>John W. Hough</i>	Company: AMEC Quantum	Date/Time: 06-24-11 / 14:20	Received by:	Company: TPA Pitt	Date/Time: 06/24/11 10:00															
linquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:															
linquished by:	Company:	Date/Time:	Received in Laboratory by:	Company: TPA SW	Date/Time: 7/1/11 09:40															

## Login Sample Receipt Checklist

Client: Cabot Oil & Gas

Job Number: 680-70010-1

**Login Number: 70010**

**List Source: TestAmerica Savannah**

**List Number: 1**

**Creator: Conner, Keaton**

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	N/A	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	False	E2 CONTAINER PH NEEDS ADJUSTING
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	N/A	
Multiphasic samples are not present.	N/A	
Samples do not require splitting or compositing.	N/A	
Residual Chlorine Checked.	N/A	